

RESPONSE

The present Amendment is presented in response to the Examiner's Office Action mailed July 8, 2002. New claims 30 through 56 are added. Claims 1-56 are now pending in view of the aforementioned new claims.

Reconsideration of this application is respectfully requested in view of the following remarks. For the convenience and reference of the Examiner, the remarks of the Applicant are presented in the order in which the corresponding issues were raised in the Office Action.

I. Claim Rejections Under 35 U.S.C. § 103(a)

In connection with the matters contemplated herein, Applicant respectfully notes at the outset that the following discussion should not be construed to constitute an exhaustive enumeration of the distinctions between the claims of the present application and the references cited by the Examiner. Instead, such distinctions are presented solely by way of example. Consistent with the foregoing, the discussion herein is not intended, and should not be construed, to prejudice or foreclose future consideration, by the Applicant, of additional or alternative distinctions between the claims of the present application and the references cited by the Examiner.

With more specific reference to the obviousness rejections posed by the Examiner, Applicant respectfully states that in order to establish a *prima facie* case of obviousness, it is the burden of the Examiner to demonstrate that three criteria are met: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there

must be a reasonable expectation of success; and third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* M.P.E.P. § 2143.

A. Rejection of Independent Claim 1

The Examiner has rejected independent claim 1 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,264,801 issued to *DeCou, Jr. et al.* (“DeCou”), in view of U.S. Patent No. 3,558,967 issued to *Miriam* (“*Miriam*”). In posing such rejection, the Examiner concedes that “DeCou Jr. et al. do not explicitly disclose an emitter having a predetermined geometrical configuration oriented to cause at least some of the discharged electrons to converge to a focal spot” (emphasis added) but suggests that “*Miriam* discloses an emitter having a predetermined geometrical configuration oriented to cause at least some of the discharged electrons to converge at a focal spot (see Figs. 1, 3)” and further, that “*Miriam* teaches that the shape of the emitter enables electrons emitted from respective portions of the emitting surface to converge to a focal spot while maintaining uniform electron emission.” For at least the reasons outlined below however, Applicant respectfully disagrees with the contentions of the Examiner.

Notwithstanding the characterization of the teachings of *Miriam* proffered by the Examiner, Applicant respectfully submits that *Miriam* fails to teach or suggest, among other things, an emitter that is “capable of discharging electrons” as required by claim 1. By way of background, *Miriam* indicates that “The concave emitter 2 is formed by a spherical section” and that “the emitting surface 3 of the emitter 2 is constituted by a multitude of individual concave cathode-emitting surfaces 6” (Col. 2, lines 55-63). The *Miriam* reference goes on to clarify that, due to the circular outer dimension of such cathode-emitting surfaces 6, “a nonemissive gridlike structure [is] defined in the face 3 of the cathode emitter 2 which will be nonemissive” (Col. 3,

lines 14-18) (emphasis added). That is, *Miriam* makes clear that emitter 2 is, in fact, simply a *nonemissive* base material. In connection with the foregoing, *Miriam* further indicates that the emissivity functionality is supplied not by the emitter itself, but by a separate “thin coating of oxide cathode material” that has been deposited on the individual emitter surfaces 6 (Col. 3, lines 1-5). Consistently, *Miriam* notes in connection with at least some alternative embodiments that “the cathode emitter is then coated with a coating of the electron emissive material” (Col. 3, lines 39-41) (emphasis added).

Thus, *Miriam* fails to teach, at least, an emitter that is “capable of discharging electrons,” as required by claim 1. Instead, as *Miriam* makes clear, the emitter disclosed there is inherently incapable of emitting electrons, and the emissivity functionality is implemented by a coating selectively applied to certain surfaces of the nonemissive emitter.

In view of the foregoing discussion, Applicant respectfully submits that the Examiner has failed to make out a *prima facie* case of obviousness with respect to claim 1, as well as with respect to claims 2 and 3 depending therefrom. In particular, even when the *Miriam* and *DeCou* references are combined in the manner suggested by the Examiner, the resulting combination nonetheless fails, as discussed above, to teach or suggest all the limitations of claim 1.

B. Rejection of Independent Claims 5, 28 and 29

In view of the fact that independent claims 5, 28 and 29 require, among other things, an emitter that is “capable of discharging electrons,” Applicant notes that the foregoing discussion directed to claim 1 is equally germane with respect to independent claims 5, 28 and 29, as well as their respective dependent claims, and respectfully directs the attention of the Examiner to such discussion.

IV. New Claims 30-56

Applicant respectfully submits that, consistent with the discussion presented herein, new claims 30-56 (each of which is directed to a device that includes, among other things, an emitter that “substantially compris[es] an emissive material” and that has a geometry such that “at least some electrons discharged by said emitter converge at a focal spot”) are patentably distinct from the devices disclosed in the references cited by the Examiner.

In this connection, Applicant respectfully notes that reference to the aforementioned exemplary limitations, or other limitations herein, is not intended, nor should it be construed, to be either an admission or assertion by the Applicant that patentability of Applicant’s new or amended claims hinges on the presence of such limitations or any other particular limitation(s). Rather, Applicant respectfully submits that each of the now pending claims, considered in its respective entirety, patentably distinguishes over the references cited by the Examiner.

CONCLUSION

In view of the discussion and amendments submitted herein, Applicant respectfully submits that each of the pending claims 1-56 are in condition for allowance. Therefore, reconsideration of the rejections is requested and allowance of those claims is respectfully solicited. In the event that the Examiner finds any remaining impediment to a prompt allowance of this application that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Dated this 8th day of November, 2002.

Respectfully submitted,



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